<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30 am</td>
<td>Registration &amp; Exhibitor Set-up</td>
</tr>
<tr>
<td></td>
<td><strong>General Session</strong> - Flint Hills (Jack Fry, Moderator)</td>
</tr>
<tr>
<td>8:15 - 8:30 am</td>
<td>Welcome, Orientation and Announcements</td>
</tr>
<tr>
<td>8:30 - 9:20 am</td>
<td>The Impact of Spray Tank Water on Pesticide Performance - Aaron Patton (3A/3B-1hr)</td>
</tr>
<tr>
<td>9:20 - 9:30 am</td>
<td>BREAK</td>
</tr>
<tr>
<td>9:30 - 10:00 am</td>
<td>Turfgrasses for KS - Jack Fry</td>
</tr>
<tr>
<td>10:00 - 10:30 am</td>
<td>Soils - Wes Howe</td>
</tr>
<tr>
<td>10:30 - 11:00 am</td>
<td>Turfgrass Weeds - Dani McFadden (3B - .5 hr)</td>
</tr>
<tr>
<td>11:00 - 11:30 am</td>
<td>Turfgrass Diseases - Megan Kennelly (3B - .5 hr)</td>
</tr>
<tr>
<td>11:30 - 1:00 pm</td>
<td>LUNCH (On Your Own)</td>
</tr>
<tr>
<td>1:00 - 1:30 pm</td>
<td>Turfgrass Insects - Raymond Clayd (3B - .5 hr)</td>
</tr>
<tr>
<td>1:30 - 2:00 pm</td>
<td>Fertilization - Steve Keeley</td>
</tr>
<tr>
<td>2:00 - 2:30 pm</td>
<td>Mowing Basics - Ross Braun</td>
</tr>
<tr>
<td>2:30 - 3:00 pm</td>
<td>Cultivation - Ross Braun</td>
</tr>
<tr>
<td>3:00 - 3:30 pm</td>
<td>Irrigation - Jack Fry</td>
</tr>
<tr>
<td>3:30 - 5:30 pm</td>
<td>TRADE SHOW - Meet with vendors, network, and chat with speakers in an informal setting (Free refreshments) Insect &amp; Mite Educational Display. Come to the trade show to see an educational exhibit of turf &amp; landscape pests.</td>
</tr>
</tbody>
</table>

**Wednesday, November 29**

<table>
<thead>
<tr>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>9:30 - 10:00 am</td>
<td>Native Plants for Kansas Landscapes and Lawns – Sharon Ashworth</td>
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<tr>
<td>10:30 - 11:00 am</td>
<td>Fire-Resistant Landscaping - Dennis Carlson</td>
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<td>11:00 - 11:30 am</td>
<td>Identifying and Controlling Tough Broadleaf Weeds - Aaron Patton (3A/3B - 1 hr)</td>
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<td>How Insecticides and Miticides Kill Bugs - Raymond Clayd (3A/3B - 1 hr)</td>
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<td>Turf Traffic Management During Suboptimal Growing Conditions - Ross Braun</td>
</tr>
<tr>
<td>11:00 - 11:30 am</td>
<td>Thatch - Its Progression and Its Impact - Jack Fry</td>
</tr>
</tbody>
</table>

**Basic Turf**
- McDowell/Tuttle

**Nursery & Landscape**
- Kaw Nation/Big Basin
- Keith Westervelt, Moderator

**Disease, Insects & Weeds**
- Flint Hills
- Ryan Varns, Moderator

**Advanced Turf**
- Konza Prairie BC
- Matt Miller, Moderator

**LUNCH (On Your Own)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>1:00 - 1:30 pm</td>
<td>Emerging Pest Issues in Kansas – Rachel Wilkins (3A - 1 hr)</td>
</tr>
<tr>
<td>1:30 - 2:00 pm</td>
<td>Core Hour: Laws, Safety &amp; Environmental Concerns - Josh Gillespie</td>
</tr>
<tr>
<td>2:00 - 2:30 pm</td>
<td>Understanding Mode of Action for Turf &amp; Landscape Herbicides - Mithila Juglam (3A/3B - 1 hr)</td>
</tr>
<tr>
<td>2:30 - 3:00 pm</td>
<td>How to Handle Excessive Shade on the Golf Course - Panel Discussion: Bill Irving, Jeff White, Aaron Patton</td>
</tr>
<tr>
<td>3:00 - 3:30 pm</td>
<td>Be Precise! Reducing Water in Fairways with Precision Irrigation - Chase Straw</td>
</tr>
</tbody>
</table>

**Insect & Mite Educational Display.** Come to the trade show to see an educational exhibit of turf & landscape pests.
**Thursday, November 30**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am</td>
<td>Registration</td>
</tr>
<tr>
<td>7:45 - 8:00 am</td>
<td><strong>Welcome, Announcements, Awards</strong> - John Bruntzel, KTF President</td>
</tr>
<tr>
<td></td>
<td>Each participant will be given a raffle ticket at the beginning of the General Session. Two lucky winners will each receive 2 tickets to the K-State vs. Wichita State Men’s Basketball game at the T-Mobile Center in Kansas City on Dec. 21.</td>
</tr>
<tr>
<td>8:00 - 9:00 am</td>
<td><strong>Work is Hard. Why Not Have Some Fun?</strong> - Matt Cavanaugh</td>
</tr>
<tr>
<td>9:00 - 10:00 am</td>
<td><strong>Spray Application Technologies in Turf and Landscapes</strong> - Chase Straw (3A/3B - 1 hr)</td>
</tr>
<tr>
<td>10:00 - 10:10 am</td>
<td><strong>BREAK</strong></td>
</tr>
<tr>
<td>10:10 - 11:10 am</td>
<td><strong>Advanced Turf</strong> - Konza Prairie BC</td>
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<tr>
<td></td>
<td>Chris Ryan, Moderator</td>
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<tr>
<td>10:10 - 11:10 am</td>
<td><strong>Nursery &amp; Landscape</strong> - Flint Hills</td>
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<tr>
<td></td>
<td>Trent Dunlap, Moderator</td>
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<tr>
<td>10:10 - 11:10 am</td>
<td><strong>Sports Turf</strong> - McDowell/Tuttle</td>
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<tr>
<td></td>
<td>Mark Lytle, Moderator</td>
</tr>
<tr>
<td>10:10 - 11:10 am</td>
<td><strong>No-Mow Fine Fescue Areas: What Works and What Doesn’t</strong> - Matt Cavanaugh</td>
</tr>
<tr>
<td>11:10 -12:10 pm</td>
<td><strong>Management of Mite Pests of Trees and Shrubs</strong> - Raymond Cloyd (3A - 1 hr)</td>
</tr>
<tr>
<td>11:10 -12:10 pm</td>
<td><strong>Field Variability and Its Impact on Athletic Surface Interactions</strong> - Chase Straw</td>
</tr>
<tr>
<td>11:10 -12:10 pm</td>
<td><strong>Dealing with Natural and Synthetic Turf</strong> - Panel Discussion: Caleb Clements, Jody Gill, David Stuhlsatz, Chase Straw</td>
</tr>
<tr>
<td>12:10 - 1:30 pm</td>
<td><strong>Trade Show</strong> (Lunch served in Big Basin/Kaw Nation Room)</td>
</tr>
<tr>
<td>1:30 - 2:30 pm</td>
<td><strong>Robotic Mowers</strong> - Panel Discussion: Kolby Burcham, Ken Liberty, Steve Wilson</td>
</tr>
<tr>
<td>1:30 - 2:30 pm</td>
<td><strong>Keeping Caregivers in the Workforce</strong> - Bradford Wiles and Cheryl Boyer</td>
</tr>
<tr>
<td>1:30 - 2:30 pm</td>
<td><strong>What’s Wrong with this Plant?</strong> - Megan Kennelly (3A/3B - 1 hr)</td>
</tr>
<tr>
<td>2:30 - 3:00 pm</td>
<td><strong>You’re Doing What?</strong> - Matt Cavanaugh (3B - 1 hr)</td>
</tr>
<tr>
<td>2:30 - 3:00 pm</td>
<td><strong>Eyes On You!</strong> — Frannie Miller (3A - 1 hr)</td>
</tr>
<tr>
<td>2:30 - 3:00 pm</td>
<td><strong>Impact of Cultural Practices on Brown Patch Disease</strong> - Jack Fry (3B - .5 hr)</td>
</tr>
<tr>
<td>3:00 - 3:30 pm</td>
<td><strong>Suppressing Bermuda in Zoysia</strong> - Dani McFadden (3B - .5 hr)</td>
</tr>
<tr>
<td>3:30 pm</td>
<td><strong>Conference Adjourned</strong></td>
</tr>
<tr>
<td>3:30 pm</td>
<td><strong>Commercial Pesticide Exam</strong> - Konza A room</td>
</tr>
</tbody>
</table>
Presentations and Descriptions

Wednesday, November 29

Welcome, Orientation and Announcements - Jack Fry
The Impact of Spray Tank Water on Pesticide Performance - Aaron Patton
Turf & landscape managers routinely use water to mix and apply pesticides, but rarely do we consider pH, hardness, alkalinity and other qualities of water that can affect pesticide efficacy. Do pesticides remain intact in your tank longer than 30 minutes after mixing? Can hard water reduce your herbicide efficacy? Learn the answers to these questions and more about what happens within the tank and what the latest research says about the influence of water quality on pesticide efficacy. (3A/3B - 1 hr)

General Session - Flint Hills

Fire-Resistant Landscaping - Dennis Carlson
Protecting homes from wildfire through hardscapes and plant selection can be marketed as an added benefit of landscape design and contracting services. Learn about fire in Kansas and key elements of fire-resistant landscaping practices that can help save structures.

Emerging Pest Issues in Kansas - Rachel Wilkins
Navigating disruptions caused by introduced pests requires long-term thinking. The Kansas Department of Agriculture actively considers approaches to invasive pest management, including statewide responses to the spotted lanternfly, box tree moth, and other significant insects. Learn more about these pests and our approach to managing each challenge. (3A - 1 hr)

Watershed Management Techniques for Aquatic Weed Control - Joe Gerken
This session will focus on best management practices to limit nutrient loads, which can cause an overgrowth of plants in aquatic environments. It will focus on approaches that can help manage the load and transport of nutrients and how these practices affect aquatic plant control measures.

Worker Protection Standards for Agricultural Establishments - Cal Jamerson
Understanding expectations and regulations related to keeping workers safe in agricultural environments is critical. Among many topics, workers in nurseries and greenhouses must receive information about personal protection equipment, pesticides, and emergency planning. Learn the basics required to comply with the WPS federal law and get connected with learning opportunities and support. (3A - .5 hr)

Speakers

Sharon Ashworth, Douglas Co. Extension, Lawrence, KS
Cheryl Boyer, Horticulture, K-State
Ross Braun, Horticulture, K-State
Kolby Burcham, Automow, Wichita
Dennis Carlson, Kansas Forest Service, Leon, KS
Matt Cavanaugh, Rush Creek GC, Maple Grove, MN
Caleb Clements, Blue Valley Schools, Overland Park, KS
Raymond Cloyd, Entomology, K-State
Jack Fry, Horticulture, K-State
Joe Gerken, Wildlife & Outdoor Management, K-State
Jody Gill, Creekside Baseball, Parkville, MO
Josh Gillespie, Kansas Dept. of Agriculture, Manhattan, KS
Wes Howe, Horticulture, K-State
Bill Irving, Wolf Creek Golf Links, Olathe, KS
Cal Jamerson, Worker Protection Standard, K-State
Mithila Juglam, Agronomy, K-State
Steve Keeley, Horticulture, K-State
Megan Kennelly, Plant Pathology, K-State
Ken Liberty, Echo Robotics, Lake Zurich, IL
Dani McFadden, Horticulture, K-State
Frannie Miller, Pesticide Safety, K-State
Judy O'Mara, Plant Pathology, K-State
Aaron Patton, Horticulture, Purdue Univ., West Lafayette, IN
Chase Straw, Dept. of Soil & Crop Sciences, Texas A&M Univ., College Station, TX
David Stuhlsatz, KSU Athletics
Jeff White, CGCS, Indian Hills GC, Mission Hills, KS
Bradford Wiles, Dept. of Applied Human Sciences, K-State
Rachel Wilkins, KDA, Manhattan, KS
Steve Wilson, CGCS, Milburn CC, Overland Park, KS

Native Plants for Kansas Landscapes & Lawns - Sharon Ashworth
Consumers are increasingly requesting native plants for their landscapes and lawns. Learn about native plant ecology, integrating natives into ornamental landscapes, and native species for lawns. Sourcing beautiful, low-maintenance, pollinator-friendly, and climate-tolerant plants from local and regional suppliers is a win for everyone.
How Insecticides and Miticides Kill Bugs - Raymond Cloyd
Learn the type of insecticides and miticides used to manage insect and mite pest problems and how they kill insect and mite pests based on the mode of action. (3A/3B - 1 hr)

Identifying and Controlling Tough Broadleaf Weeds - Aaron Patton
Why are some weeds so hard to kill? With well over 200 different weeds, a “one size fits all” approach to weed control is unsuccessful. Just like specific home improvement projects often require specific tools and knowledge to complete, difficult to control weeds also require specific knowledge to control. Learn more about the biology of these hard to control weeds and the researched solutions to their control. (3A/3B – 1 hr)

Core Hour: Laws, Safety & Environmental Concerns - KDA
Regulatory information required for certified applicators.

Understanding Mode of Action for Turf & Landscape Herbicides - Mithila Juglam
Both pre- and post-emergence herbicides are typically applied to achieve season long weed control. Both nonselective and selective herbicides are also used depending on the type of turf (cool-season vs. warm-season) or the time of application. The mode of action of herbicide groups used in turf and landscapes will be discussed. (3A/3B - 1 hr)

Tree Disease Look-Alikes - Judy O'Mara
A quick look at some non-disease stress factors that were confused with common Kansas tree diseases during the recent growing season. (3A - .5 hr)

Turf Traffic Management During Suboptimal Growing Conditions - Ross Braun
Foot and vehicular (cart, mower, maintenance equipment) traffic stress can impact the turf in several ways. Traffic stress management strategies will be discussed to prevent and alleviate damage.

Thatch - Its Progression and Its Impact - Jack Fry
Several grasses grown in Kansas can be thatch accumulators. See how cultural management impacts thatch, and once thatch accumulates how that can have an impact on turf quality. In addition, hear an overview about how thatch can be effectively reduced.

Growing Turf in Low Light, Shaded Environments - Aaron Patton
Plants capture the sun’s energy and build carbohydrates which are necessary for plant growth and development. Learn how you can measure the light plants use to make turf establishment and management decisions. The latest information on shade tolerant cultivars, management practices to enhance shaded turf quality, and new technologies to diagnose shade issues will be covered.

How to Handle Excessive Shade on the Golf Course - Panel Discussion: Bill Irving, Jeff White, Aaron Patton
As trees grow and mature they eventually can have a significant impact on turf quality. Hear from several golf course superintendents on how they have dealt with shade issues.

Be Precise! Reducing Water in Fairways with Precision Irrigation - Chase Straw
Learn about soil moisture sensors and mapping technologies that can be used to implement precision irrigation on golf courses. Ongoing precision irrigation research at Texas A&M will be discussed, including water use compared to conventional irrigation scheduling methods and barriers to the adoption of newer technologies.

Thursday - November 30

Welcome and Announcements - John Bruntzel
Each participant will be given a raffle ticket at the beginning of the General Session. Two lucky winners will each receive 2 tickets for the K-State vs. Wichita State Men’s Basketball game at the T-Mobile Center in Kansas City on December 21.

Work is Hard. Why Not Have Some Fun? - Matt Cavanaugh
We are all aware that turfgrass management is not the easiest profession to be a part of. We may not be aware that we are not very good at overcoming the hardships of the job with a little fun. This talk will focus on some of the goofy, fun and different things Matt has done at Rush Creek to make it a more enjoyable work experience that keeps seasonal employees coming back each year.

Spray Technologies in Turf & Landscapes - Chase Straw
Sprayer technology in turf and landscapes is rapidly advancing with GPS and autosteer innovations. They enable more precise management input application, reducing time, costs, and environmental impact. This presentation will provide a comprehensive overview of these technologies and their practical applications. Additionally, it will explore the exciting potential of future applications, like drone spraying, which promises to revolutionize turf & landscape management with even more targeted inputs. (3A/3B - 1 hr)
No-Mow Fine Fescue Areas: What Works and What Doesn’t - Matt Cavanaugh
Fine fescue areas are a giant pain in the butt. The pictures we see in trade magazines and the footage we see on television often do not reflect what we have at our own course. This talk will focus on Matt's fine fescue graduate research work at the University of Minnesota and the subsequent 17 years of managing no-mow, fine fescue areas in the hopes of helping you avoid some of the pitfalls of these areas.

Customized Agronomic Programs for Better Turf Results - Ross Braun
Each site is unique with its own advantages and disadvantages. Hear about multiple case studies and potential solutions to manage the site properly.

Robotic Mowers - Panel Discussion: Kolby Burcham, Ken Liberty, Steve Wilson
Those who market robotic mowers, and turf specialists who use them on their site, will give an overview of what's available and how effective they can be.

You’re Doing What? - Matt Cavanaugh
I have always been someone who bucks the trend and this has been especially true with my fertilizer and pesticide programs. This talk will focus on how Matt’s fertilizer and pesticide programs have evolved over the years to what is now a fairly minimalistic approach. Matt will discuss years of trial and error and observational research at Rush Creek to share the story of how managing 40 plus acres of bentgrass can be done with less fertilizer and pesticides. All kinds of fertilizer and pesticides will be discussed in cringeworthy fashion as you look at Matt and say "You’re doing what?” (3B - 1 hr)

Management of Mite Pests of Trees and Shrubs - Raymond Cloyd
Learn about the types of mites that feed on trees and shrubs, their biology, behavior, and damage. You will also learn how these management strategies should be implemented to manage mite pests in landscape and nurseries. (3A - 1 hr)

Nursery & Landscape Disease Update - Judy O’Mara
This session will take a look at introduction and movement of emerging diseases within nursery and landscape settings. (3A - 1 hr)

What’s Wrong with this Plant? - Megan Kennelly
We'll look at some interesting turf and landscape photographic case studies and put our puzzle-solving skills to the test. We'll talk about asking the right questions to get to the root of the problem. (3A/3B - 1 hr)

Impact of Cultural Practices on Brown Patch Disease - Jack Fry
An overview of all cultural practices that impact brown patch disease. See research done at K-State in summer ’23 on how nitrogen sources and rates impacted brown patch on tall fescue. (3B - .5 hr)

Suppressing Bermuda in Zoysia - Dani McFadden
Starting in 2023, a new herbicide was released that has a unique ability to protect zoysia and significantly suppress bermuda when combined with another herbicide. Hear results of research done in Olathe over the past 18 months. (3B - .5 hr)
Conference Location
The Kansas Turf & Landscape Conference will be held at the Hilton Garden Inn, 410 S. 3rd St., Manhattan, KS

Hotel
Hilton Garden Inn (410 S. 3rd St., Manhattan.). Room rate: $105 Reservations can be made online by November 3 at https://www.hilton.com/en/attend-my-event/mangigi-turf23-37c146fb-753e-4742-ae5a-042e55448374 OR, call the hotel directly at (785) 532-9116 (please mention you are part of KS Turfgrass Assn. Group code TURF23)

Registration
To register online and pay by credit card go to https://2023turfandlandscapeconference.eventbrite.com OR fill out the registration form and send in by November 22.

Special Assistance
A conference participant who needs accommodations due to a disability or special dietary requirement, should indicate services needed on the registration form. Early notification is requested to ensure that accommodations can be provided in a timely manner.

Cancellation/Refund Policy
If cancellation is necessary, substitutions with another person from the same company is allowed. A written request for a refund must be received before Nov. 20, 2023. The amount refunded will be less a $25.00 processing fee. No refunds will be made after this date. Email your request to cdipman@ksu.edu

If inclement weather should prevent your attendance, no refunds are provided. Significant expenses occur on behalf of the KTF in its commitment to hold this conference.

Pesticide Recertification Credit Hours
The Kansas Turf & Landscape Conference has been approved for state pesticide applicator recertification credit:
1 Core Hour  3A - 7 hrs  3B - 7 hrs

Presentations qualifying for 3A or 3B credit are noted after the title. Pick up a form at the registration table to record pesticide recertification credits. A monitor must sign each form before you leave the session. At the end of the conference, give your form to the moderator in the last session you are attending.

If your license expires this year, go to https://agriculture.ks.gov/divisions-programs/pesticide-fertilizer renewals to pay the fees and renew before December 31.

GCSAA Education Points
November 29 - 0.60 ed points
November 30 - 0.60 ed points

Int'l. Society of Arboriculture
CEUs available for Certified Arborists
Kansas Turf & Landscape Conference
November 29 & 30, 2023         Pre-Registration Form
Register online at: https://2023turfandlandscapeconference.eventbrite.com

FULL Registration (2 days)  ($275.00 at conference)  $250.00 x ______ ________
Includes 2-day conference, lunch on Thursday, complementary KTF membership dues, and trade show.

Additional persons from same firm  ($140.00 at conference)  $115.00 x ______ ________
No dues included.

WEDNESDAY only-Nov. 29 ($150 at conf.) Includes trade show; no dues.  $125.00 x ______ ________

THURSDAY only-Nov. 30  ($150.00 at conference)  $125.00 x ______ ________
Includes lunch, trade show; no dues.

2024 Kansas Turfgrass Foundation Membership Dues  $ 75.00 x ______ ________
A 2024 Kansas Turfgrass Foundation Directory will be sent to each member.

Name of individual(s) joining association: ____________________________________________

2024 KNLA Membership Dues can be paid at http://ksnla.org/join-knla/

☑ Yes, I need to take the Pesticide Exam on Nov. 30 at 3:30 p.m.

TOTAL: $ ___________

Dietary or special assistance needed: _______________________________________________________

Company/business name _________________________________________________________________

Individual __________________________________________________________________________________

Mailing address _____________________________________________________________________________

City ___________________________ State _____  Zip ___________  Phone   (         ) __________________

Email: _____________________________________________________________________________________

Payment:
☐ Check payable to Kansas Turfgrass Foundation enclosed
☐ Please invoice (payable upon receipt)
☐ Credit card No. ___________________________ Exp. ________ 3-4 digit CID _______

Name on card (printed) _____________________________

Please return registration form by November 22 to:
Turf Conference Registration, 1712 Claflin, 2021Throckmorton PSC, Manhattan, KS 66506-5507
Fax: (785) 532-6949       cdipman@ksu.edu
Matt Cavanaugh is the golf course superintendent at Rush Creek GC in Maple Grove, MN. He graduated from K-State in Turfgrass Management, was an Asst. at Rush Creek GC, Heads Grounds Manager at Stillwater School Dist., Sales Rep for PBI-Gordon, and Research Scientist at the University of Minnesota.

Dr. Chase Straw is an Assistant Professor, Dept. of Soil & Crop Science at Texas A&M. His research focuses on precision turfgrass management, which involves interdisciplinary approaches aimed at understanding the spatial and temporal variability of turfgrass systems in order to develop practical strategies for reducing management inputs and improving the overall experience.

Dr. Aaron Patton is Professor of Turf & and Weed Science and Extension Specialist at Purdue University. His research includes implementing and leading projects devoted to managing quality lawn, sod, golf, and sports turf while reducing management inputs. He focuses on weed ecology and control, warm-season grasses, and agronomic practices in turfgrass systems.